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Hand threshing paddy rice in Haryana, India.

New Argentine Policy Seen Basis of Gains In Farm Production

By Myles Mielke

Argentina's agricultural economy rebounded strongly from the relatively low production levels prevailing before the 1976/77 crop year as a result of new Government policies and very favorable weather. Future agricultural development is based on Government-sponsored programs to improve farm technology, expand production area, and build new marketing infrastructure.

Argentina's substantial recovery of agricultural production and trade during the 1976/77 season can be credited largely to policy changes of the Government that came to power in March 1976.

Lower export taxes and removal of price controls encouraged grain producers to expand planted area by 10 percent to 22 million hectares, following 3 years of near-zero growth.

Unusually favorable weather boosted yields to record and near-record levels for most crops, and the resulting harvests of 32 million metric tons of grains and oilseeds were marketed without the costly delays encountered in earlier years.

The return of export marketing functions to private traders and improved efficiency at Government-operated port facilities were largely responsible for the export of 10.5 million tons of grain during the first half of 1977—a record for the first 6 months of any year and more than most yearly totals.

To assure continued development of Argentina's agricultural production and trade, long-term programs have been set for two major commodity groups—grain and livestock.

Under these programs, output is to be intensified on existing farms and expanded to new production areas.

Also, projects have been initiated to improve storage and distribution of grains and oilseeds to assure advantageous marketing of the projected production increases.

The Government during the past several years has provided operating credits—both internally and externally financed—to crop and livestock producers.

By far the largest program is the Balcarce livestock development project, begun in 1967, which is an on-farm credit plan for investment in pasture improvement, fencing, watering and handling facilities, and purchase of machinery and breeding cattle.

Project loans also may provide partially for the cost of machinery contractors, technical and marketing services, and draining and soil surveys.

Partially financed by the World Bank, funds are channeled through the Central Bank, with loans made and supervised by the National Bank of Argentina.

The National Institute for Agricultural Technology (INTA) provides technical assistance and soil and draining studies. The program involves 700 farms and about 200,000 hectares in Buenos Aires Province.

Progress toward completion of the credit program was slowed by the depressed beef export market during 1974 and 1975 and by problems resulting from the high inflation rate of the past 3 years.

A $60 million plan to open western La Pampa Province to grazing is one of the recently proposed livestock development programs. The project area encompasses 8 million hectares, and would provide an additional 200,000 metric tons of meat, or about 7 percent of current production.

The uncertain world demand for beef and relatively low prices could delay the start of this project until conditions are more favorable for expanding beef production.

A general agricultural development plan could add

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another 120,000 tons of meat to future production potential. Calling for short- to medium-term projects, the plan would involve credit extensions to 2,000 farms in San Luis, Entre Rios, Corrientes, eastern La Pampa, and central and southeastern Buenos Aires.

Technical assistance is to be provided by INTA, and the supervised credit program will be similar to the Balcarce plan.

Besides increases in meat production, projections include an additional 100,000 tons of grains, 40,000 tons of sunflowers, and 2,400 tons of butterfat.

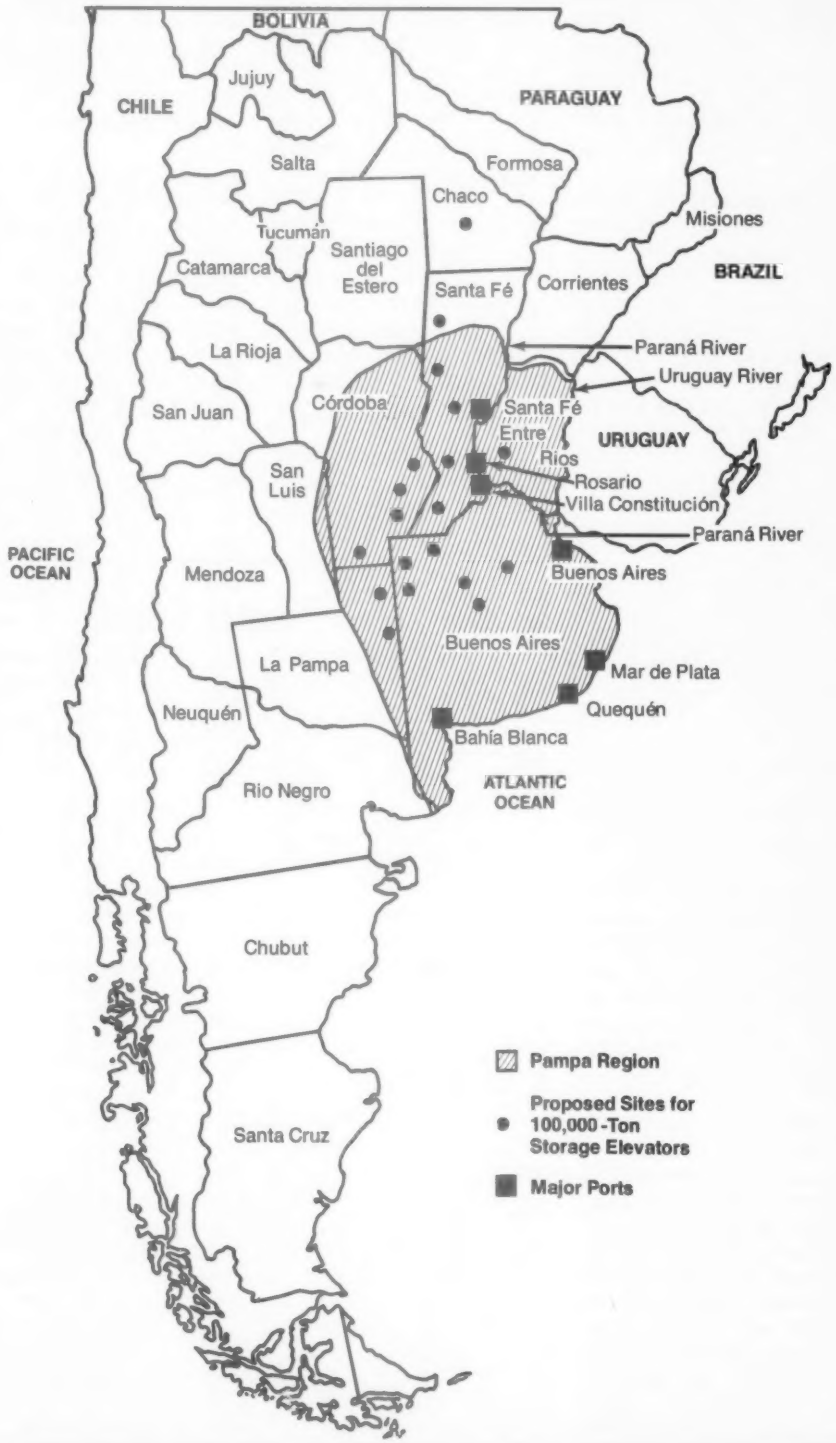
Extensive land clearing and reclamation projects also are proposed. One land-clearing program, sponsored by the Agriculture and Livestock Secretariat (SAG), would involve 3.5 million hectares in nine of the country's 23 provinces and would take 10 years to complete.

The project area is located in the semi-arid region bordering the humid Pampa region, and includes central-west Entre Rios, north Santa Fe, central-north Cordóba, central-south Chaco, east Formosa, east Santiago de Estero, northeast Tucamán, and parts of Salta and Jujuy.

Mostly export-oriented crops will be planted, including sorghum, corn, wheat, soybeans, and sunflowers. Crop-livestock rotation is anticipated for the long run. The program will mainly involve land clearing on existing farms. Cost of the project is estimated at $800 million, with an expected return from increased agricultural production of $1 billion.

Reclamation of wastelands in three regions—the Paraná River delta of Entre Rios, north Santa Fe, and southwest Chaco—is planned by a commission comprised of representatives of

Argentina: Principal farm production region, ports, and proposed elevators.



SAG, the Transportation and Public Works and Energy Secretariats, and Provincial Governments.

The delta project is of particular importance. Strategically located between two principal rivers—the Paraná and the Uruguay—that flow into the River Plate, it consists of about 1 million underutilized hectares.

Transportation of agricultural products from these new lands to market would be mainly by ships plying between ports on the two rivers and Argentina's seacoast ports as well as foreign ports.

The Netherlands Government, because of its experience in reclaiming and farming low areas, has been approached for technical assistance in developing the delta area.

Argentina's new farm marketing programs place particular emphasis on storage capability. Present commercial storage capacity of grains and oilseeds is around 14 million tons plus about 2 million tons on farms. This total is about two-thirds of average grain and oilseed production during 1972/73-1975/76.

Ideally, storage capacity should be equal to production levels, but Argentina's capacity, based on this standard, falls short by almost 9 million tons on average and by 16 million tons during the record crop year 1976/77.

Beside the shortcoming of quality depreciation in stored grain exposed to the elements, Argentine grain must necessarily be sold during the harvest year—regardless of world market conditions—because of the limited capacity to accumulate large carryover stocks.

The lack of adequate storage also has the potential for loss of contracts resulting from inability to meet individual scheduling requirements of particular importers.

Much storage construction was delayed during the past few years, and—as a result—temporary measures were taken, such as converting railroad warehouse sheds to grain storage facilities. The Government plans to construct new bulk storage facilities that would add 4 million tons to existing private capacity, besides an additional 500,000 tons of capacity in Government-owned elevators and silos.

If the storage expansion program is successful, it will increase total storage capacity by as much as one-third.

The most critical shortage of grain storage is at the intermediary and farm levels. During harvest periods, this shortage forces shipment of grain to port terminals, even though the grain may be destined for domestic use.

Two of the largest programs will be directed toward alleviating this bottleneck. Each of the programs would receive financing from international lending institutions.

One project is to be partially financed by the Inter-American Development Bank (IDB) in conjunction with the National Bank. The National Bank will extend credit to farmers, cooperatives, and private concerns to increase intermediary storage by 2 million tons.

Of the 1,400 loans expected to be made under this project, 800 would be for construction of new storage capacity and 600 for expansion or improvement of existing facilities. Loans can finance up to 80 percent of total investment cost, with up to 8 years for repayment (with 2-year grace periods) for elevator installations. Total cost of the program is estimated at $124 million, with the IDB supplying $60 million.

Another 2 million tons of grain storage capacity is expected to be added through a program to build 20 primary silos, each of 100,000 tons capacity and the largest ever built in Argentina. The World Bank will provide partial financing for this $280 million Government-sponsored project, which eventually will be operated by the National Grain Board.

The program calls for locating the silos at or near railroad lines to make use of the country's rail transport system, which has been in decline for years because of greater use of trucks. The project includes plans for converting 2,000 rail cars from bag to bulk handling capability and to improve receiving facilities for handling bulk shipments at the ports.

Other programs to facilitate storage and distribution of grains include expansion of Government-owned elevators and silos at country and port terminals. One of the country's busiest port elevators—Ingeniero White, at Bahía Blanca—is to be expanded by 150,000 tons. In 1976, this elevator handled 29 percent of Argentina's grain exports.

Access by ships to river and ocean ports is being increased by widening and dredging activity. At present, only the ports of Bahía Blanca and Buenos Aires have harbors that accommodate ships with drafts of 30 or more feet. Because of this limitation, many ships

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Some Taxes, Tariffs Eased

The Argentine Government recently announced plans for new export and tariff treatment affecting grains, oilseeds, and wool, as well as reduction of import duties on tractors, fertilizer, and several chemical products used in cattle sanitation.

The 10 percent export retention tax affecting corn, sorghum, rye, oats, barley, birdseed, and millet was eliminated December 1 for winter crops and is to be dropped on March 1, 1978, for summer crops. Wheat and rice were not subject to the tax and thus are not affected.

Export regulations for flaxseed were liberalized as of December 7, and those for sunflowerseed and peanuts are to be liberalized as of March 1, 1978. The export quota system for soybeans is to be ended as of March 1, 1978. Export retention taxes for flaxseed, sunflowerseed, and peanuts for crushing were reduced from 25 percent to 10 percent, and the 5 percent soybean levy is to be eliminated.

The export retention tax on greasy wool, previously 15 percent, was reduced to 5 percent for the year beginning October 1. For manufactured wool products, different levels of rebates were fixed, ranging from 5 percent to 25 percent, depending on the degree of manufacturing.

For imported tractors of 12 to 110 horsepower, the import duty is reduced to 40 percent; for units of 110 to 130 horsepower, 30-40 percent; and for replacements, the new duty is 60 percent. The duty on nitrogen fertilizers was cut from 60 percent to 15 percent, and that for some chemicals used in cattle sanitation from 65 percent to 15 percent. □

India Has Near-Record Foodgrain Harvests

India's foodgrain output for 1977/78 may range from 118 million to 121 million metric tons—as much as 8 percent more than 1976/77's 111.6-million-ton harvest—nearly equal to the record 121-million-ton crop produced in 1975/76.

As a result of this generally favorable situation, wheat imports are expected to drop to low levels in 1977/78.

Kharif (autumn/winter harvested) rice production is likely to reach 45 million tons (milled basis), up from about 40 million tons in 1976/77.

Output of kharif coarse grains during 1977/78 probably will be about the same as the 23.1 million tons harvested in 1976/77.

Rainfall in western India this year was relatively favorable for coarse grain production, but cultural practices—including the growth of grass as a fodder crop at the same time sorghum and corn are grown—have inhibited India's prospects for a breakthrough in yields of coarse grains.

Planting conditions for the coming wheat and barley crops are likely to be more favorable than they were in 1976. Rainfall in early October was considerable, and soil moisture in most wheat areas is normal or above-normal.

Wheat production reached 29.1 million tons in 1977, up from 28.8 million tons in 1976 and 24.1 million tons in 1975.

An increase in area and greater use of high-yield varieties and fertilizer helped offset the problems caused by dry winter weather during the 1976/77 season.

India's total 1977/78 rice production is forecast to increase about 15 percent over the previous year's level to about 49.5 million tons (milled).

Rainfall in most of India's major rice areas was excellent from late June through September.

However, a serious deficiency of rainfall in late September apparently has reduced prospects for record yields.

Total rice production reached 48.7 million tons in 1975/76, but erratic rainfall and dry conditions in September caused 1976/77 output to fall to 42.8 million tons.

Rice production in areas with improved irrigation and favorable monsoon rainfall is expected to rise considerably. During 1977/78, record production of rice is expected in Punjab, Haryana, West Bengal, and Assam.

High-yield varieties account for over 60 percent of the area planted to rice in Punjab and Haryana, where rice is primarily a cash crop.

Improved irrigation systems have enhanced rice yields on Western Uttar Pradesh, West Bengal, and Madhya Pradesh. India recently received a loan for $52 million to improve rice yields in Orissa through improved irrigation facilities.

Since 1967/68, West Bengal has been India's leading State for rice output. Production in Andhra Pradesh is likely to remain near 6 million tons in 1977/78, placing it again as the second major State in rice output despite damage from the November storms. Punjab's production has almost tripled since 1970/71.

In addition to exporting about 1.5 million tons of wheat via Soviet ships through calendar 1978, India is planning to send about 70,000 tons of wheat flour to Vietnam.

Some of the wheat shipped to the Soviet Union will be Australian and U.S. wheat stored in India, but the wheat flour exported to Vietnam is to be from domestic production.

About 1,000 tons of wheat was exported to the Yemen Arab Republic in 1977.

Export assistance and subsidies for India's growing exports of bakery products to Mideastern countries are expected to cut into the lucrative market for European exporters of cookies, biscuits, cakes, and special types of bread. India sent about 4,000 tons of bakery products to the Mideast in 1976.

Large wheat imports during 1975 and 1976 contributed somewhat to the dramatic rise in Government grain stocks, which reached 22 million tons in mid-1977—double the previous year's level. Production increases for wheat and rice were major factors in the stock increases.

The drive to lower Government grain stocks has brought policy changes in the country's grain trade. Private traders are now allowed to move wheat and rice throughout the country for the first time in more than a decade. Exporters of basmati rice and barley have been allowed more freedom.

Rice exports in 1977 are estimated at about 100,000 tons—up from 38,000 tons in 1976—and will likely include about 40,000 tons of basmati rice for Mideastern markets and 50,000 tons of coarse rice for Indonesia. □

By John B. Parker, Jr., Foreign Demand and Competition Division, Economic Research Service.

Machine harvesting of paddy (rough) rice in Haryana, one of the States contributing to this year's record rice crop in India.

Syria Cotton Output Drops as Yields Dip for First Time in 9 Years

Syria's cotton production is expected to fall slightly in 1977—despite an increase in irrigated cotton area—as yields, following a summer heat wave, are expected to decline for the first time in 9 years. A large proportion of the country's cotton outturn is shipped abroad, and exports in the 1977/78 season (August-July) are expected to reflect the lower availability.

More than three-fourths of Syria's 1976 cotton exports went to the People's Republic of China (PRC), the USSR, Italy, Czechoslovakia, and Spain.

About 95 percent of Syria's cotton crop is irrigated, and average yields on this land are among the highest in the world. In fact, spectacular increases in yields from improved cotton varieties over the past decade have enabled the Syrian Government to stabilize production of cotton—the No. 1 cash crop—while allocating more irrigated land to much-needed crops of fruits, vegetables, oilseeds, and sugar beets.

Based on a report from Shackford Pitcher, U.S. Agricultural Attaché, Damascus.

Last year, the country's cotton crop was forecast at about 700,000 bales (480 lb net), slightly below the final estimate of 717,000 bales for the 1976 crop, because of very high temperatures during August and September. The hot, dry weather hastened crop maturity, and harvesting began about 2 weeks earlier than normal.

The projected output is still rated good owing to adequate moisture conditions during the planting season and most of the growing season. Although adversely affecting yields, the hot weather helped control damage by insects and disease.

Irrigated area rose 2.4 percent to 176,826 hectares, while the rain-grown cotton area increased about 10 percent to 10,223 hectares.

Syria's 1976 cotton output fell only 1.3 percent below the 727,000 bales a year earlier, despite a 13 percent cutback in area as yields reached a record level.

That year, average cotton yields on irrigated land reached a new high, mounting to 896 kilograms per hectare, compared with the previous record of 848 in 1975. Favorable weather during the growing and harvesting seasons, continued use of improved seed, and better insect and disease control were the major factors contributing to the record 1976 yields.

Yields of rain-grown cotton tend to vary sharply because of sensitivity to moisture conditions. These were good in 1976 and rain-grown yields jumped 29 percent to an average of 184 kilograms per hectare.

From 1967 to 1976, irrigated cotton yields expanded 45 percent, while the combined averaged yield for irrigated and rain-grown cotton improved 63 percent. This has allowed the Government to keep cotton production at previous levels while diverting more irrigated land to other crops.

The Government has sought to intensify agricultural production on irrigated land through double-cropping. But, so far, these efforts have not been successful because a suitable second crop for cotton has not been found.

Syria is also trying to mechanize cotton harvesting. In early March of last year, the Government ordered all directorates of agriculture in the cotton-growing Governorates to set aside 100 hectares of irrigated land for mechanical cotton planting and harvesting trials.

Earlier tests in 1976 with two U.S. mechanical cotton pickers were not conclusive, as experts declared that the land was not suitably prepared for mechanical harvesting. Meanwhile, cotton picking in Syria continued to be done by hand at high cost to farmers. This harvesting method often accounts for 40 percent of a farmer's expenses.

Still, Syria ranked as the world's 12th leading cotton producer in 1976, and the medium-term outlook calls for stable production until at least 1980—the target date for completion of several irrigation projects in the Euphrates Basin. This eventually will provide water for irrigating an additional 640,000 hectares and would double the country's irrigated land area.

Cotton is Syria's top agricultural export commodity and ranks second to crude oil as the country's leading export item. Based on value, cotton represented 15 percent of Syria's total exports of $1.06 billion in calendar 1976, with the crude-oil share standing at 62 percent. During the 1976/77 marketing season, Syria, along with Turkey, was the world's fourth largest cotton exporter.

In 1976, Syrian cotton exports increased in both value and volume. Lint-cotton exports rose 15 percent to 564,000 bales, while value jumped about 45 percent to $164 million. Exports of cotton linters soared 73 percent above those of 1975 to 17,956 tons.

Principal customers for Syrian cotton in 1976, with bales in parentheses, were: PRC (135,000); the Soviet Union (122,000); Italy (96,000); Czechoslovakia (33,000); and Spain (32,000).

Syria's cotton exports competed directly with U.S. cotton in only two of these markets. U.S. shipments to Italy in 1976 totaled 85,000 bales, up from 53,000 in 1975, but below the 1970-74 average of 114,000. U.S. cotton exports to Spain jumped from 17,000 bales in 1975 to 86,000 that year, well above the 1970-74 average of 51,000.

In 1977, however, the PRC had purchased 212,000

bales of U.S. cotton for delivery in 1977/78.

Iraq, which ranked as Syria's third biggest customer in 1975 with purchases of 66,000 bales, did not buy any cotton from Syria in 1976—apparently because of political differences between the two countries.

Another change in Syria's 1976's exports was a drop in trade with Communist countries, which took 59 percent of Syria's total cotton exports, compared with 67 percent in 1975.

The Cotton Marketing Organization, a State-owned agency established in 1965 in Aleppo, handles all ginning and marketing of cotton, including contracts for export sales. In fact, Syria's cotton industry is controlled by the Government at all stages, and cotton remains one of the leading crops receiving Government assistance. Farmers wishing to raise cotton must get a hectarage permit from the nation's Cotton Bureau. This permit, in turn, allows the farmer to obtain seed, fertilizers, and production loans from the Agricultural Cooperative Bank. The Government's cotton policy is outlined every year in an agricultural plan passed by the Supreme Agricultural Council, as well as in the country's 5-year plans. □

France's Apple, Pear Shortfalls Open Trade Doors for U.S. Growers

France's sharply reduced 1977 apple and pear crops and subsequent shortfalls in its 1977/78 exports open favorable trade opportunities for U.S. fruit exporters during the current Northern Hemisphere marketing year, July-June.

This bright trade outlook for U.S. producers has been further enhanced since the European Community (EC) has reduced temporarily its import duty on fresh apples.

The EC Council of Agricultural Ministers voted November 7 to lower the Common External Tariff (CXT) to 6 percent through January 31, 1978. The new CXT replaced the 14-percent rate normally effective through December and the usual 10-percent January rate.

Exports of U.S. apples to European markets in 1977/78 are expected to reach at least 21,000 metric tons, more than double last season's high level.

France, the world's leading apple exporter and the dominant factor in European markets, is expected to import a record level of apples while exports tumble about 22 percent from those of 1976/77.

French apple and pear prospects for 1977, like those of other major European producers, have been dampened by poor weather and resulting diseases. Most of the slack in these shortfalls is expected to be bridged by imports from the United States and Canada.

In April 1977, a USDA analysis of the production shares of major apple producers showed Europe dominating production, with a share ranging from 53 to 58 percent in recent years, followed by North American producers (20-24 percent). Average production of the major apple-producing countries during 1970-76 was 15.2 million tons.

As a result of Easter frosts and poor weather during the growing season, the French apple crop for 1977 should be the lowest since 1972—despite 1977 being the high cycle in the biennial bearing pattern. The apple harvest is estimated at 1.3 million tons, down from year-earlier average production of about 1.6 million tons and 36 percent below 1975's outturn of 1.9 million tons.

In 1976, France was the world's No. 3 apple producer, ranking behind Italy (2.1 million tons) and the United States (2.9 million tons).

Last year, the Aquitaine area in southwestern France experienced the biggest dropoff as production plunged 62 percent from 1976's to 63,670 tons. The Rhone Valley—little affected by the Easter cold wave—was the only region of the country's eight major producing areas to register a production increase in 1977. There, the apple harvest rose 12 percent to 81,000 tons.

Golden Delicious apples, reported less damaged by frosts, will account for about 75 percent of France's total production, up 3 percent from the previous season, despite Government efforts in recent years to lower Golden's share.

The Red American variety suffered the largest production decline, dropping 46 percent below the 1976 outturn. Its share of the crop decreased from 10 percent in 1976 to 8.5 percent of the 1977 harvest.

Because more than one-fourth of France's apple trees are over 15 years old, the French Fruit Growers Organization has conducted an orchard rejuvenation program in recent years. As a result, French orchard area declined 23 percent from 130,250 hectares in 1969 to 100,800 in 1974 while commercial orchards decreased from 71,290 hectares to 56,948. During 1976/77, about 5,135 hectares of apple trees were reportedly uprooted.

With a short domestic crop, French apple exports are expected to slip to around 450,000 tons. Last season's high export level of 577,000 tons was only 13 percent under the 1975/76 record of 665,000.

Yet, the marketing situation since the start of the current season has been very unclear. Exports during the first quarter ran at a level comparable to the year-earlier period—82,545 tons versus 82,705 tons.

During 1976/77, the United Kingdom remained as France's top customer by taking 205,000 tons, compared with 217,000 in 1975/76 and 149,000 in 1974/75. French apple exports to West Germany faced intense competition from Italy and were down 10 percent from 1975/76 and 30 percent from 1974/75. Sales to the West German market totaled only 160,-

Based on a report from the Office of the U.S. Agricultural Attaché, Paris.

810 tons compared with 176,000 in 1975/76 and 230,800 in 1974/75. On the other hand, new buyers in the Persian Gulf countries of Iraq, Saudi Arabia, Dubai, and Iran accounted for close to 10 percent of France's total exports. Two years ago, that share—attributed solely to Iran—was only 1 percent.

French apple imports during 1977/78 are pegged at a new high of 180,000-200,000 tons—100,000 above usual levels. However, during the first 3 months of the current marketing year, domestic sales were strongly influenced by high prices and ran substantially below normal. In the coming months, high prices could minimize the country's import requirements and may keep imports from reaching 180,000 tons.

France's 1977 pear production was the smallest since 1971. The harvested outturn of only 259,000 tons was almost 41 percent under the 1976 outturn, which was considered an average crop. Southeastern France fared best with a production decline of about 24 percent while crops in the Loire Valley and in the southwest experienced output declines from 50 to 70 percent.

Winter pears were the most severely affected crop, falling 54 percent short of 1976's output, while summer pears were down only 28 percent. The summer harvest of 142,000 tons accounted for more than half of the country's total output.

Pear exports, consisting mostly of summer pears, are forecast at 30,000-35,000 tons, down about 40 percent from last season's. The country's import needs, anticipated to be high during the winter, are placed at 80,000 tons, compared with an average of 50,000 in recent years. □

Singapore Expands Imports Of U.S. Poultry Meat

Singapore's rising per capita income and favorable prices for poultry relative to pork are creating significantly higher levels of domestic poultry production and imports.

Poultry meat output in 1976 totaled 47,800 metric tons, an increase of 10 percent over the 1975 level, and imports during that year amounted to 15,000 tons, including 10,582 tons of chicken meat.

The United States was the principal supplier of chicken meat (54 percent of the Singapore market in 1976) and of turkey meat (51 percent in 1976). Denmark, formerly an important supplier, saw its share of the Singapore chicken market drop from 53 percent in 1973 to 18 percent in 1976 when the Danish Government ended export subsidies for poultry to Singapore.

Based on dispatch from Robert J. Svec, U.S. Agricultural Attaché, Singapore.

Other factors influencing Singapore's switch to U.S. sources of chicken are competitive prices, reliable delivery, and consistent product quality.

Total imports of chicken meat during 1977 are expected to be about 14 percent greater than 1976's. If competitive U.S. prices are maintained and European Community subsidies do not again include Singapore, the United States should be able to maintain and even increase its market share.

The Singapore Government's goal is to expand domestic poultry production while keeping a manageable balance between domestic and imported poultry. There is some concern that if too large a proportion of poultry is imported—especially from a single source—Singapore would be at the mercy of the supply-demand situation of the poultry exporting country.

Several factors suggest continued gains in Singapore's poultry production levels—relocation of hog farms and the consequent negative impact on pork production; lower feed prices and the start of feed production at a large mixed-feed complex; and reduced availability of ducks from

Iraq's Farm Output Drops Below '76 Level

Adverse weather has cut Iraq's 1977 wheat outturn substantially, lowering the country's overall grain production level by about one-fourth and setting the stage for expanded wheat imports during 1977/78 (July-June). Wheat imports during 1977/78 are expected to reach 1.5 million metric tons, double the previous year's level.

Per capita agricultural production in Iraq during 1977 will be about 14 percent below the level for 1961-65 and about 7 percent below the 1976 mark.

Drought and untimely rains during the growing season were mainly responsible for a 47 percent drop in wheat production from 1.3 million metric tons in 1976 to about 696,000 tons for 1977.

By John B. Parker, Foreign Demand and Competition Division, Economic Research Service.

Barley production, on the other hand, sustained less damage and is expected to total about 450,000 tons—21 percent less than in the previous year.

Most of Iraq's rice and corn production is under irrigation—in contrast to wheat and barley, which are grown mostly in the rainfed northern area.

Rice output increased from 61,000 tons (paddy) in 1975 to 164,000 tons in 1976. Production in 1977 is estimated to be about the same as in 1976.

Corn production increased from about 15,000 tons in 1974 to about 45,000 tons in 1976 and further gains to 65,000 tons were reported for this year. Expanded area and greater use of fertilizer contributed to the increase.

Vegetable outturns are increasing in Iraq, spurred by expanding urban demand and new programs to make production more attractive to farmers.

Tomato production increased from 220,000 tons in 1969 to about 440,000 tons in 1976. Outturns of watermelons reached 576,000 tons in 1971 and remained below that level until 1976, when production probably exceeded 600,000 tons.

Output rose from 8,000 tons (37,800 bales) of lint cotton annually during

the Republic of China coupled with an expected increase in duck production in Singapore.

Singapore is self-sufficient in eggs and about 80 percent of its poultry meat consumption is from domestic sources. Total poultry meat output for 1976 was 88 percent chicken and 12 percent duck meat. Hen egg production for 1976 was 508 million units, a rise of 8.5 percent over the year-earlier total.

The Government has made management studies of heavy breeders, broilers, and commercial layers. Regular field visits were made to advise and help farmers in production, management, housing design, disease, and nutrition.

Singapore imposes no tariff duties on poultry imports, which has helped make the country an attractive market for U.S. poultry. □

1961-65 to 14,000 tons in 1972 and remained below 15,000 tons during each of the past 3 years.

Sheep and cattle herds are being improved by introduction of new breeding stock.

Finnsheep, for example, are a new breed from Europe with a fertility rate about triple that of native Iraqi sheep. However, results of these efforts will not be significant for the next several years.

Total meat production for 1977 is estimated at about 200,000 tons, compared with 175,000 tons last year. Mutton accounts for more than two-thirds of Iraq's meat output. Beef and veal output is rising moderately because of the greater use of feedlots.

Output of poultry meat this year should exceed 35,000 tons and additional projects to boost broiler output are scheduled to come on line in 1978. □

Peru Reports Reverse In Poultry Production

A substantial drop in consumer demand for poultry meat, brought about by persistent inflation and larger supplies of fish at lower retail prices, has reversed Peru's upward trend in poultry production.

The 1977 production of poultry meat has been revised downward to 120,000 metric tons, 8 percent lower than the 130,000 tons produced in 1976.

During 1978, poultry meat output is forecast to remain at about the same level—120,000 tons—since the current recession and accompanying inflation probably will continue to lower consumer purchasing power. Egg consumption is also being affected by reduced demand, but at a lower rate than poultry meat.

As a result of major losses from overproduction during 1976, poultry raisers are becoming more dependent on mixed feed manufacturers. Special agreements have been signed between feed plants and poultry raisers on production and marketing. The Ministry of Food is expected to begin regulating this type of integration in the near future.

The new slaughtering and marketing system, established by the Ministry of Food, whereby refrigerated poultry meat sales are replacing live bird sales, is gradually being implemented. However, popular markets are still retailing poultry slaughtered in backyards.

Of the 100 poultry slaughterhouses that have operated in the past, the Ministry of Food has certified only nine as having approached compliance with the new requirements. There are also a few private projects to establish more modern slaughterhouses to gradually replace the nine marginal plants operating at present. Reportedly, half of the 200,000 birds currently consumed daily in Lima will be slaughtered in these plants.

Inspection, grading, and stamping will be handled by the Ministry of Food, and this poultry will be retailed in supermarkets and poultry stores. Since popular markets will also have to adjust to the new system, it is anticipated that they also will have to adapt to refrigerated marketing in time.

Reduced poultry meat consumption and a lag in production have forced Peru to look for markets outside the country. To date, exports have been minimal (about 100 tons to Chile), and they are not expected to increase substantially in the near future because of the lack of adequate processing, storage, and transportation facilities for exports.

Furthermore, Peru's industry cannot compete with major poultry meat exporting countries.

Exports of eggs and chicks, however, are trending upward—primarily to Ecuador, Bolivia, and Chile. Exports in 1976 totaled 350,000 eggs and 420,000 chicks. Although no figures are available for 1977, is is estimated that total exports of these products may double those of 1976. □

Based on a report from Richard L. Barnes, U.S. Agricultural Attaché, Lima.

Dutchman Gets Sunkist Carton No. 100 Million

Recently, Frans van der Burg, a fruit wholesaler in Vlaardingen, a satellite town of Rotterdam, the Netherlands, received another carton of Sunkist oranges—and it didn't look much different to him than the hundreds of other Sunkist orange cartons that he has received.

However, when he opened the carton to inspect the fruit, he discovered a plaque notifying him that he was the recipient of the 100-millionth carton of citrus exported by Sunkist Growers, Inc., through the port at Long Beach, Calif. Sunkist is an agricultural marketing organization which cooperates with USDA and serves about 7,500 citrus growers in California and Arizona. It exports fresh citrus to about 20 destinations, including markets in Western Europe, Japan, and many East-bloc countries.

Sunkist had placed the historic carton, No. 100,000,000 on a refrigerated vessel bound for Europe in mid-August. Speaking at ceremonies marking the occasion, Sunkist President Roy Utke said exports over the last 10 years were valued at nearly $1 billion.

The honored recipient, Van der Burg has been buying Sunkist's citrus since he took over his father's wholesaling business in 1954. "Although price is a factor, quality is what counts most in this business," he said.

In addition to the commemorative plaque, Van der Burg and his wife received a north European coastal cruise. □

Kenyan Pastoralists Enter 20th Century

Kenya's livestock and meat industries are hard put to meet the twin demands imposed by the country's growing meat consumption level and its export trade. To boost its commercialized meat output, Kenya is helping Masai and Samburu pastoralists to settle on ranches. To lessen the shock of transition, the Government has undertaken a number of social and financial programs, and is investing sizable sums in water development and various infrastructure elements.

To boost the country's commercial meat output, Kenya is recasting a large segment of its livestock sector. It is settling on ranches and land under regional grazing schemes cattle- and small-stock raising peoples such as the Masai and Sumburu, who traditionally have spent their lives roaming the country in search of adequate water and forage for their herds.

Kenya also is stepping up aid to established commercial ranchers, for many years the backbone of the country's beef cattle industry.

The Kenyan Government has long recognized the need to commercialize the beef production of the country's pastoralists and upgrade other aspects of the country's livestock sector. This augmented commercialized production will make it easier to meet the country's domestic consumption needs—growing at a rate of about 5-6 percent a year—and maintain its current level of meat and meat product exports.

Sales of livestock and livestock products grew at about 8.5 percent per year between 1969 and 1976 and annually contribute about 25-30 percent to gross marketed agricultural production. (In 1976, sales were estimated at $84 million.)

However, the livestock industry's main contribution to Kenya's gross domestic production is in the nonmonetary sector, supplying herdsmen with milk and meat for food, and hides and skins for leather.

However, the livestock also provides large-scale employment and foreign exchange earnings. Exports were valued at more than $26.4 million in 1975, accounting for about 9 percent of Kenya's commodity export earnings. Imports of livestock products are negligible most years.

Kenya's livestock scheme —a part of its 5-year plan— has received financial and other assistance from a number of sources. The International Development Association (IDA) of the World Bank, the U.S. Agency for International Development and U.S. Department of Agriculture, Canada, the United Kingdom, and Kenya have supplied funds and/or personnel.

In addition, participating livestock producers also contribute to the program. These funds go to aid all three of the country's ranch categories — company-cooperative ranches, commercial ranches, and pastoralist group ranches.

Under the company-cooperative type ranch, assets are held by shareholder-owners, with animals, land, and improvements owned in common. Profits are paid out as dividends.

Commercial ranches are owned by one or more individuals, produce most of the country's marketed livestock, earn the greatest profits from cattle raising, and pay their owners the largest returns.

But it is the group ranches, directly involving tribal pastoralists, which may have the most significant social and economic impact.

Under this system, now involving some 1,200 pastoral families in Kajiado, Narok, and Samburu Districts, land is owned communally and registered formally in a group's name. On the basis of collective land titles, these groups can obtain long-term loans to finance the building of farm infrastructure.

Terms of the loans stipulate that while individuals continue to own and manage their cattle, the Range Management Division of the Ministry of Agriculture advises on other aspects of the operation, such as stocking and off-take rates.

Government programs assist tribal-group ranchers to make the transition from roamer to fixed rancher with minimal shock. The schemes also demonstrate how the new methods of living and producing can improve pastoralist incomes and still allow them to maintain their traditional system of cattle ownership.

But despite this help, the herdsmen face several stumbling blocks. They must learn to grapple with complicated land ownership laws and master the mysteries of a cash economy. And like earlier group-ranch participants, they must accept contracts, schedules, stocking rates, and taxes as hard facts of life.

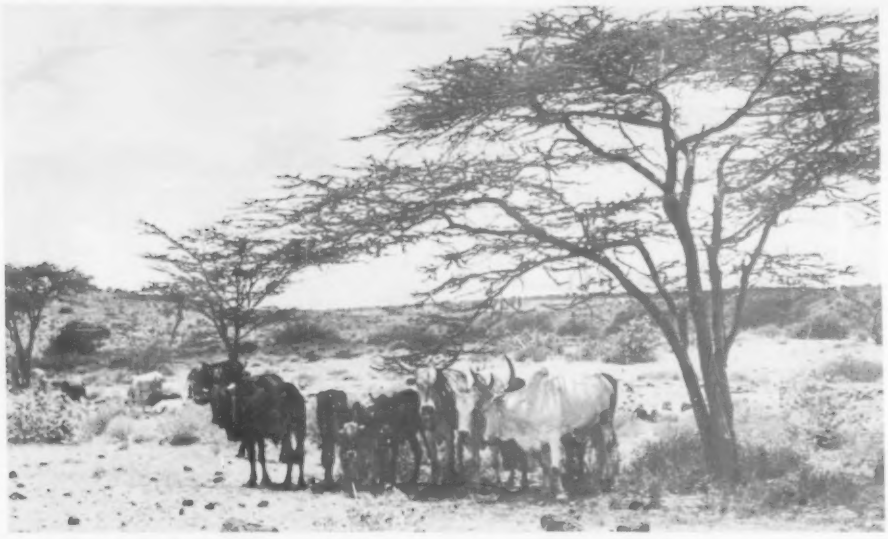
Under the Government's plan cattle are raised, sold, and replaced by others—all in the name of cash income and profit. In the past the herds fulfilled a deeper need, serving as a common center around which tribal customs revolved.

Since wealth and social stature were judged by the size of a man's herd, each herdsman held every head of stock as long as possible.

Furthermore, since the herdsmen's dietary staples were mainly milk—and to a lesser degree meat—a large cattle population was required to feed their families. And the even-present danger of drought made it necessary to have many cattle so as to have a nucleus in the event of a killoff.

But even these simple re-

Based on the observations of John C. Dunmore, agricultural economist with the Foreign Demand and Competition Division, ERS, who recently returned from a 2-year assignment with the Kenyan Ministry of Agriculture.



Top, Kenyan cattle taking shelter from the sun; below left, young herders, guarding cattle in the traditional manner, stop to have their picture taken. This leisurely way of cattle herding may undergo great changes as pastoral herdsmen settle on ranches.

quirements worked against the pastoralist, as increasing population required ever larger herds, which resulted in severe overstocking, overgrazing, and reduced production per animal.

And unlimited access to grasslands actually helped to speed the pastoral system's deterioration. Because there was always more grass available there was neither the inclination to invest in permanent improvements, nor to adjust cattle numbers to the carrying capacity of the land.

But under the group-ranch plan, herd size is adjusted to pasture capacity and is kept in bounds by a continual sales turnover.

By the end of the program, some 180 group ranches are to be established and/or improved. In addition, about 10 million hectares of communal grazing land in north and northeastern Kenya are to be upgraded. Permanent and seasonal water facilities have already been improved on over 4 million hectares under an earlier program.

Despite the Government's drive to settle roving herdsmen on group ranches, livestock production and herding is still the major activity of roving pastoralists who make up 9-10 percent of the country's 13.9 million people. The cattle population, mostly indigenous Zebu types, totals about 9.7 million head (1975 data) and is equally distributed between roving pastoralists and fixed herdsmen—including commercial ranchers—in the more fertile agricultural areas.

From this resource base, Kenya produced an estimated 143 million kilograms of beef in 1975, of which about 60 percent was marketed.

Only 4 percent of Kenya's land area is used for farming and potential for crop expansion is extremely limited. Much of the remaining area is, and will continue to be, used for grazing livestock and wildlife. However, if the group-ranch program is to achieve its objective of providing larger volumes of marketable meat, more pastoralists must be convinced of the advantages of ranching for profit. And this may be difficult to do. □

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Record Rice Crops Boost 1977 World Grain Harvest

Strengthened by prospects of a record world rice harvest in 1977, estimated world grain production for the year is now estimated at about 1.4 billion tons, up 1 million tons from the FAS mid-November estimate. Estimated 1977 world wheat and coarse-grain output has declined marginally since the November estimate.

Total world grain stocks are now projected to be 185 million tons by the end of 1977/78 (July-June), up about 4 million tons from the previous estimate. Rice accounts for 3 million tons of the increase.

World wheat and coarse-grain prices, after reaching their lowest levels in July and August, continue to improve. A wheat and coarse-grain stock reduction of about 7 million tons relative to last year's ending-stock level is now indicated, rather than the 35-million-ton buildup forecast in May.

Based on FAS Circular FG 24-77.

Rice prices, too, have strengthened sharply since mid-summer, despite expectations of record world rice outturns and stock levels.

Rice production increases occurred principally in countries that normally are not large exporters, and demand continued strong from traditional importers, such as Indonesia, the European Community, the Mideast, and Africa. Price advances have been especially strong for parboiled and higher quality milled rice.

Although the aggregate total grain crop estimate has changed only marginally in recent weeks, there have been several notable production changes for individual countries and areas.

Canada's total grain outturn has been revised upward to 42 million tons—its second largest grain crop—only 3 million tons below last year's record harvest.

Total Canadian grain exports are forecast at a record 20 million tons during 1977/78, about 3 million tons higher than the 1976/77 level and slightly larger than the previous record (1972/73).

East European total grain production also is estimated at a record level, reflecting bumper crops in Yugoslavia, Hungary, and Czechoslovakia.

Another favorable monsoon season in India has enhanced that country's prospect of a record 1977/78 rice crop. Even though coarse-grain production prospects are below earlier expectations, India's total wheat, coarse-grain, and rice outturns in 1977/78 will approach or equal the previous record.

Such a record marks India's third consecutive large grain harvest, and will likely result in minimum grain imports well into the 1977/78 season. □

Correction: "Central American Coffee Producers Face Uncertainty" (Dec. 19, 1977), page 2, column 4, third paragraph, last line, should read "And on December 2, the Brazilian Coffee Institute lowered its minimum registration price . . ."

Continued from page 4

Argentine Policy

and barges are loaded at river and smaller ocean ports to be topped off or have their cargoes transferred to larger ships at the major ports.

Since many of the agricultural programs will require large financial commitments, the shortage of development capital could be a barrier to success.

Also, large credit needs are likely to be created by complementary projects, such as technology adaptations resulting from development programs.

Because of this situation, the Argentine Government has been actively seeking foreign financing from private and international lending institutions.

In the near term, Government credit extension faces an uncertain future, as policies to correct inflation appear to have high priority. In the longer run, however, the promotion of agricultural production and trade is expected to be viewed as vital to the health of the Argentine economy. □